LISTING OF CLAIMS:

These claims will replace all prior versions of claims in the present application.

Please cancel original claims 1-37 and add new claims 38-79 as follows.

Claims 1-37. Canceled.

38. (New) A transformed bryophyte cell that comprises i) a dysfunctional fucosyl transferase nucleotide sequence and ii) a dysfunctional xylosyl transferase nucleotide sequence.

39. (New) A transformed bryophyte cell according to claim 38, wherein the said cell further comprises a nucleotide sequence operably linked to an exogenous promoter that drives expression in the said bryophyte cell, wherein said nucleotide sequence encodes a glycosylated polypeptide that is expressed in the bryophyte cell.

40. (New) A transformed bryophyte cell according to claim 39, wherein said glycosylated polypeptide comprises animal glycosylation patterns.

41. (New) A transformed bryophyte cell according to claim 40, wherein said glycosylated polypeptide comprises mammalian glycosylation patterns.

42. (New) A transformed bryophyte cell according to claim 38, further comprising a nucleotide sequence operably linked to an exogenous promoter that drives expression in the said bryophyte cell, wherein said nucleotide sequence encodes a functional mammalian galactosyl transferase that is expressed in the bryophyte cell.

43. (New) A transformed bryophyte cell according to claim 42, wherein the mammalian galactosyl transferase that is expressed is a beta-1,4 galT.

44. (New) A transformed bryophyte cell according to claim 43, wherein the mammalian galactosyl transferase that is expressed is a human beta-1,4 galT.

45. (New) A bryophyte cell according to claim 38, wherein the bryophyte cell is selected from species of the genera Physcomitrella, Funaria, Sphagnum, Ceratodon, Marchantia and Sphaerocarpos.

46. (New) A bryophyte cell according to claim 45, wherein the bryophyte cell is selected from Physcomitrella.

47. (New) A bryophyte cell according to claim 46, wherein the bryophyte cell is from Physcomitrella patens.

48. (New) A bryophyte cell according to claim 39, wherein the mammalian glycosylated polypeptide is selected from the group comprising a polypeptide having a primary amino acid sequence of a human glycosylated polypeptide, a primary amino acid sequence of a non-human mammalian glycosylated protein, and/or a primary amino acid sequence of an antibody or an active fragment thereof.

49. (New) A bryophyte cell according to claim 48, wherein the mammalian glycosylated polypeptide is a human polypeptide.

50. (New) A bryophyte cell according to claim 48, wherein the mammalian glycosylated polypeptide is selected from the group consisting of human insulin, preproinsulin, VEGF, proinsulin, glucagon, interferons such as alpha-interferon, beta-interferon, gamma-interferon, blood-clotting factors selected from Factor VII, VIII, IX, X, XI, and XII, fertility hormones including luteinising hormone, follicle stimulating hormone growth factors including epidermal growth factor, platelet-derived growth factor, granulocyte colony stimulating, prolactin, oxytocin, thyroid stimulating hormone, adrenocorticotropic hormone, calcitonin, parathyroid hormone, somatostatin, erythropoietin (EPO), and enzymes such as beta-glucocerebrosidase, haemoglobin, serum albumin, and collagen.

51. (New) A method of producing at least a bryophyte cell wherein fucT and xylT activity is substantially reduced, that comprises introducing into the said cell i) a first nucleic

acid sequence that is specifically targeted to an endogenous fucosyl transferase nucleotide sequence and ii) introducing into the said cell a second nucleic acid sequence that is specifically targeted to an endogenous xylosyl transferase nucleotide sequence.

52. (New) A method according to claim 51, wherein the said transformed bryophyte cell further comprises a nucleotide sequence operably linked to an exogenous promoter that drives expression in the said bryophyte cell, wherein said nucleotide sequence encodes a glycosylated polypeptide that is expressed in the bryophyte cell.

53. (New) A method according to claim 52, wherein said glycosylated polypeptide comprises animal glycosylation patterns.

54. (New) A method according to claim 53, wherein said glycosylated polypeptide comprises mammalian glycosylation patterns.

55. (New) A method according to claim 51, further comprising introducing into the said cell an isolated nucleic acid sequence that comprises nucleic acid operably linked to an exogenous promoter that drives expression in a bryophyte cell, wherein said nucleic acid encodes a functional mammalian galactosyl transferase polypeptide.

56. (New) A method according to claim 55, wherein the galactosyl transferase nucleotide sequence is a beta-1,4 galactosyl transferase (beta-1,4 galT) nucleotide sequence.

57. (New) A method according to claim 56, wherein the galactosyl transferase nucleotide sequence is a human beta-1,4 galactosyl transferase (beta-1,4 galT) nucleotide sequence.

58. (New) A method according to claim 52, wherein the mammalian glycosylated polypeptide is selected from the group comprising a protein having a primary amino acid sequence of a human protein, a primary amino acid sequence of a non-human mammalian protein, and/or a primary amino acid sequence of an antibody or an active fragment thereof.

59. (New) A method according to claim 52, wherein the glycosylated polypeptide is selected from the group consisting of human insulin, preproinsulin, proinsulin, glucagon, interferons such as alpha-interferon, beta-interferon, gamma-interferon, blood-clotting factors selected from Factor VII, VIII, IX, X, XI, and XII, fertility hormones including luteinising hormone, follicle stimulating hormone growth factors including epidermal growth factor, platelet-derived growth factor, granulocyte colony stimulating, prolactin, oxytocin, thyroid stimulating hormone, adrenocorticotropic hormone, calcitonin, parathyroid hormone, somatostatin, erythropoietin (EPO), and enzymes such as beta-glucocerebrosidase, haemoglobin, serum albumin, collagen, and human and non-human proteins selected from amidases, amylases, carbohydrases, cellulase, dextranase, esterases, glucanases, glucoamylase, lactase, lipases, pepsin, peptidases, phytases, proteases, pectinases, casein, whey proteins, soya proteins, gluten and egg albumin.

60. (New) A method according to claim 51, wherein the bryophyte cell is selected from species of the genera Physcomitrella, Funaria, Sphagnum, Ceratodon, Marchantia and Sphaerocarpos.

61. (New) A method according to claim 60, wherein the bryophyte cell is selected from Physcomitrella.

62. (New) A method according to claim 61, wherein the bryophyte cell is from Physcomitrella patens.

63. (New) A method according to claim 52, wherein the mammalian glycosylated polypeptide is selected from the group comprising a polypeptide having a primary amino acid sequence of a human glycosylated polypeptide, a primary amino acid sequence of a non-human mammalian glycosylated protein, and/or a primary amino acid sequence of an antibody or an active fragment thereof.

64. (New) A method according to claim 63, wherein the mammalian glycosylated polypeptide is a human polypeptide.

65. (New) A method according to claim 43, wherein the mammalian glycosylated polypeptide is selected from the group consisting of human insulin, preproinsulin, VEGF, proinsuin, glucagon, interferons such as alpha-interferon, beta-interferon, gamma-interferon, blood-clotting factors selected from Factor VII, VIII, IX, X, XI and XII, fertility hormones including luteinising hormone, follicle stimulating hormone growth factors including epidermal growth factor, platelet-derived growth factor, granulocyte colony stimulating, prolactin, oxytocin, thyroid stimulating hormone, adrenocorticotropic hormone, calcitonin, parathyroid hormone, somatostatin, erythropoietin (EPO), and enzymes such as beta-glucocerebrosidase, haemoglobin, serum albumin, and collagen.

66. (New) A method according to claim 52, wherein the exogenous promoter is selected from inducible, chemical-regulated, constitutive or cell specific promoters.

67. (New) A nucleic acid vector suitable for producing at least a bryophyte cell wherein fucosyl and xylosyl transferase nucleotide sequences are dysfunctional.

68. (New) A nucleic acid vector according to claim 67 that comprises i) a first nucleic acid sequence that is specifically targeted to an endogenous fucosyl transferase nucleotide sequence and ii) a second nucleic acid sequence that is specifically targeted to an endogenous xylosyl transferase nucleotide sequence.

69. (New) A nucleic acid vector suitable for producing at least a bryophyte cell wherein fucosyl and xylosyl transferase nucleotide sequences are dysfunctional, further including:

polynucleotide that encodes a functional mammalian glycosyl transferase suitable for use in a method of producing at least a bryophyte cell wherein fucT and xylT activity is substantially reduced, that comprises introducing into the said cell i) a first nucleic acid

sequence that is specifically targeted to an endogenous fucosyl transferase nucleotide sequence and ii) introducing into the said cell a second nucleic acid sequence that is specifically targeted to an endogenous xylosyl transferase nucleotide sequence;

wherein the said transformed bryophyte cell further comprises a nucleotide sequence operably linked to an exogenous promoter that drives expression in the said bryophyte cell, wherein said nucleotide sequence encodes a glycosylated polypeptide that is expressed in the bryophyte cell.

70. (New) A nucleic acid vector according to claim 69, wherein said polynucleotide encodes a recombinant mammalian galactosyl transferase.

71. (New) A nucleic acid vector according to claim 70, wherein said polynucleotide encodes a recombinant human beta-1,4 galactosyl transferase.

72. (New) A host cell containing a nucleic acid vector according to claim 67.

73. (New) A host cell according to claim 72 which is a bryophyte cell.

74. (New) A host cell according to claim 72 which is a prokaryote cell.

75. (New) A method of producing a host cell according to claim 72, the method including incorporating said nucleic acid vector into the cell by means of transformation.

76. (New) Use of a nucleic acid vector according to claim 67 in the production of a transgenic bryophyte cell.

77. (New) A host cell according to claim 72 which is comprised in a bryophyte, or a bryophyte part, or an extract or derivative of a bryophyte or in a bryophyte cell culture.

78. (New) A bryophyte plant or bryophyte tissue comprising a bryophyte cell according to claim 38.

79. (New) A method of producing a bryophyte plant, the method including incorporating a nucleic acid vector according to claim 67 into a bryophyte cell and regenerating a bryophyte from said cell.